DERMATOLOGICA SINICA 33 (2015) 249–250

Contents lists available at ScienceDirect

Dermatologica Sinica

journal homepage: http://www.derm-sinica.com

CORRESPONDENCE

Adalimumab-induced lupus pernio-like eruption in a patient with psoriasis

Dear Editor,

Psoriasis is an immune-mediated cutaneous inflammatory disease, and both anti-tumor necrosis factor (TNF) and Th17 are considered to play major roles in its pathogenesis.[1] Biologics, including anti-TNF and anti–interleukin-12/interleukin-23 agents, have been increasingly used for the treatment of psoriasis due to their efficacy and safety compared to conventional systemic agents. However, various cutaneous adverse reactions have been reported, especially after anti-TNF agents.[2] We report a case of lupus pernio-like eruption occurring shortly after adalimumab treatment for psoriasis.

A 32-year-old Taiwanese man suffered from chronic plaque psoriasis for 3 years. He was previously treated with methotrexate, which was discontinued due to acneiform eruptions and intolerable gastrointestinal upset. Adalimumab 40 mg biweekly was initiated with significant improvement of his psoriasis. However, asymptomatic bilateral facial erythema occurred 2 months later. The lesions progressed despite topical treatment with tacrolimus ointment (Figure 1A). Biopsy revealed multiple foci of well-formed noncaseating granulomas composed of aggregated epithelioid histiocytes involving the dermis and subcutis (Figure 1B and C). Cutaneous sarcoidosis was diagnosed based on the subcutaneous involvement of granuloma, which is not seen in granulomatous rosacea. He was otherwise healthy and the results of laboratory investigations, including assays for antinuclear, anti-dsDNA antibodies, and screening for extractable nuclear antigens were unremarkable. Chest X-ray and 24-hour urinary excretion of calcium were normal. Gallium-67 whole body scan with regional single photon emission computed tomography revealed symmetrically increased gallium tracer uptake at lacriminal and salivary glands, compatible with typical panda sign (Figure 1D). On the basis of these clinicopathological features and image study, the rashes were diagnosed as lupus pernio, a special form of sarcoidosis. After discontinuation of adalimumab and treatment with oral doxycycline 100 mg twice daily, his facial erythema improved markedly in 4 weeks, and resolved completely after 2 months (Figure 1E). Ustekinumab was initiated 6 months later due to psoriasis recurrence without relapse of sarcoidosis.

The cutaneous side effects of anti-TNF agents have been well established in recent years and consist of either infectious or immune-mediated disorders.[3] Inflammatory skin disorder such as psoriasis, acneiform dermatitis, and rosacea have been well documented in the literature both in rheumatology and dermatology fields.[3,4] Anti-TNF therapy has been used to treat steroid-resistant sarcoidosis, but paradoxically, noninfectious cutaneous granulomatous reactions, such as cutaneous sarcoidosis, interstitial granulomatous dermatitis (IGD), and disseminated granuloma annulare have also been documented.[3,5] Inhibition of complement cascade activation was described as the possible mechanism of anti-TNF agents (including adalimumab and infliximab) in the treatment of granulomatous disorders.[6] However, the pathomechanism of anti-TNF agent-induced granulomatous reaction remains unknown. Sarcoidosis is a systemic granulomatous disease of unknown etiology that can affect multiple organs. Lupus pernio is a variant of cutaneous sarcoidosis presenting with erythematous to violaceous nodules and plaques located symmetrically over the nose, cheeks, ears, and digits. The presence of lupus pernio may suggest a more aggressive form of the disease.[5,7]

Sarcoidosis developing after TNF blockers has been considered to be a class phenomenon that may occur after the use of drugs sharing similar mode of action.[8] However, rechallenge of TNF blockers does not always trigger the recurrence of sarcoidosis and etanercept-induced sarcoidosis has also been reported to resolve after adalimumab treatment. Although sarcoidosis is a well-recognized complication following treatment of TNF blockers, a similar phenomenon has not been reported in Han Chinese, which may be due to decreased prevalence of sarcoidosis among Han Chinese compared to Caucasians. Although coincidence cannot be ruled out, we propose that clinicians should bear in mind the possibility of sarcoidosis-like eruption development in Han Chinese patient receiving TNF blockers.

Conflicts of interest: The authors declare that they have no financial or non-financial conflicts of interest related to the subject matter or materials discussed in this article.

http://dx.doi.org/10.1016/j.dsi.2015.03.011

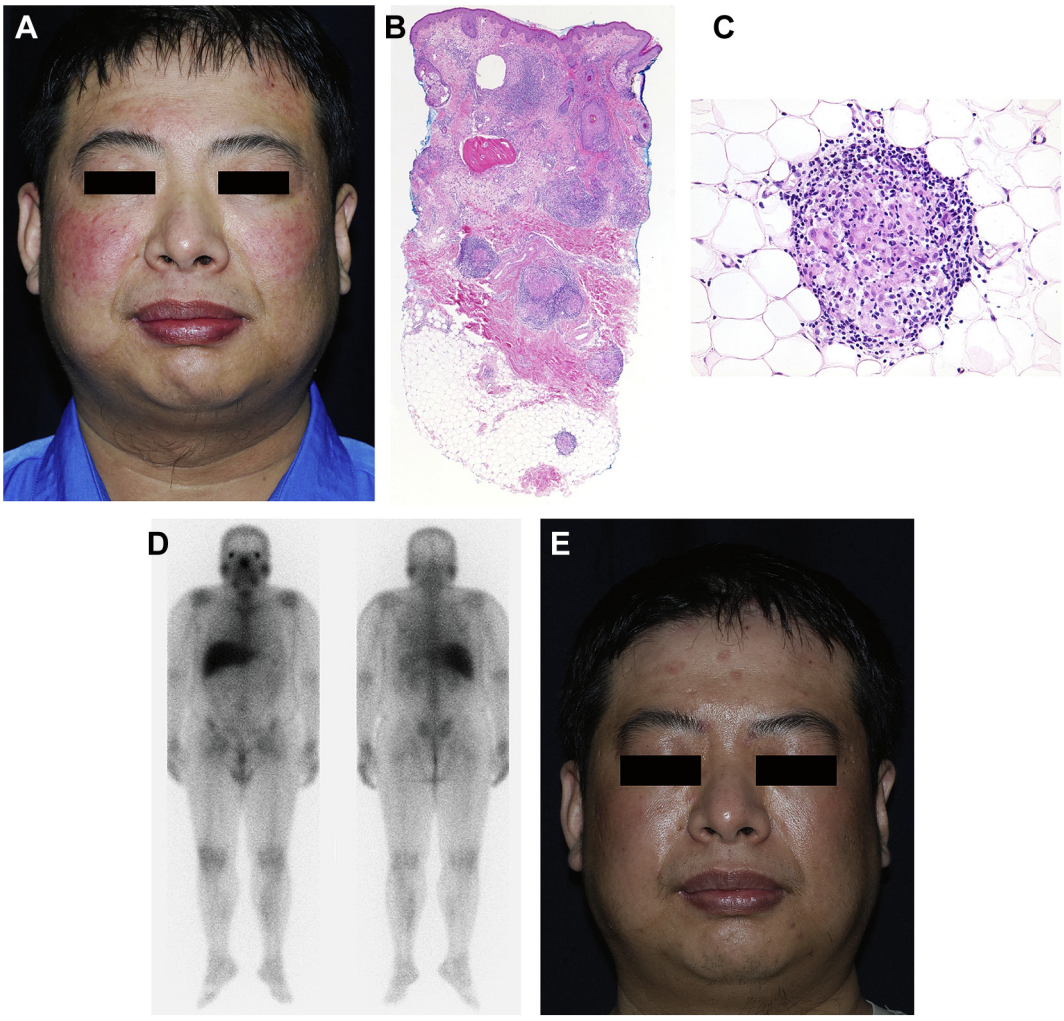

Figure 1 (A) Variously-sized reddish papules distributed within ill-defined erythematous infiltrative plaques over bilateral cheeks of the patient. (B) Multiple foci of well-formed granulomas composed of aggregate of epithelioid histiocytes and with prominent surrounded lymphocytes in the dermis and included subcutis. (C) High-powered view of subcutis lesion: aggregation of epithelioid histiocytes within clear background and few surrounded lymphocytes, indicating a naked granuloma. (D) Symmetrically increased gallium tracer uptake at lacrimal and salivary glands (panda sign) in gallium-67 whole body inflammation survey with regional single photon emission computed tomography. (E) Complete resolution of facial skin lesions after 2 months of discontinuation of adalimumab.

Po-Hua Chen
Department of Dermatology, National Taiwan University Hospital, Taipei, Taiwan

Tsen-Fang Tsai*
Department of Dermatology, National Taiwan University Hospital and National Taiwan University College of Medicine, Taipei, Taiwan

* Corresponding author. Department of Dermatology, National Taiwan University Hospital, 7 Chung-Shan South Road, Taipei 100, Taiwan.
E-mail address: tftsai@yahoo.com (T.-F. Tsai).

References

1. Chiu HY, Cheng YP, Tsai TF. T helper type 17 in psoriasis: from basic immunology to clinical practice. *Dermatol Sinica* 2012;**30**:136–41.
2. He GY, Tsai TF. Concomitant occurrence of acneiform eruption, alopecia areata, and urticaria during adalimumab treatment in a patient with pustulosis palmoplantaris: case report and literature review. *Dermatol Sinica* 2012;**30**:51–6.
3. Moustou AE, Matekovits A, Dessinioti C, Antoniou C, Sfikakis PP, Stratigos AJ. Cutaneous side effects of anti-tumor necrosis factor biologic therapy: a clinical review. *J Am Acad Dermatol* 2009;**61**:486–504.
4. Scheinfeld N. A comprehensive review and evaluation of the side effects of the tumor necrosis factor alpha blockers etanercept, infliximab and adalimumab. *J Dermatolog Treat* 2004;**15**:280–94.
5. Kanellopoulou T, Filiotou A, Kranidioti H, Dourakis SP. Sarcoid-like granulomatosis in patients treated with anti-TNFα factors. A case report and review of the literature. *Clin Rheumatol* 2011;**30**:581–3.
6. Jackson JM. TNF-alpha inhibitors. *Dermatol Ther* 2007;**20**:251–64.
7. Spiteri MA, Matthey F, Gordon T, Carstairs LS, James DG. Lupus pernio: a clinico-radiological study of thirty-five cases. *Br J Dermatol* 1985;**112**:315–22.
8. Massara A, Cavazzini L, La Corte R, Trotta F. Sarcoidosis appearing during anti-tumor necrosis factor alpha therapy: a new "class effect" paradoxical phenomenon. Two case reports and literature review. *Semin Arthritis Rheum* 2010;**39**:313–9.

Received: Jul 2, 2014
Revised: Feb 28, 2015
Accepted: Mar 20, 2015